

### REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated April 14, 2009 has been received and its contents carefully reviewed.

Claims 1-5 are hereby amended. No new matter has been added. Accordingly, claims 1-12 are currently pending, of which claims 5-12 are withdrawn from consideration. Reexamination and reconsideration of the pending claims are respectfully requested.

The Office Action rejects claims 1-2 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,0007926 to Provenzano et al. (*Provenzano*). Applicants respectfully traverse the rejection.

Amended claim 1 recites, “a zirconia-alumina nano-composite powder comprises sintered secondary particles prepared from zirconia primary particles ... and alumina primary particles.” The Specification further provides that “[s]ince the zirconia-alumina nano-composite powder according to an embodiment of the present invention is formed of secondary particles prepared by sintering nano-sized primary particles of zirconia and alumina that are microscopically homogeneously mixed, some zirconia particles are covered by alumina particles while some zirconia particles are partially embedded into and partially exposed to the surfaces of alumina particles. That is, the nano-composite powder is formed of secondary particles that are composites formed by sintering nano-sized primary particles of components.” *Specification*, page 6, lines 20-27, emphasis added. *Provenzano* fails to teach at least this element of claim 1. In fact, *Provenzano* discloses that “an insoluble alumina powder is mixed with zirconia powder using a liquid dispersant” and then “[a] sintering step bonds the grain surfaces together and provides for diffusion of components between unit cells and between individual grains.” *Provenzano*, column 2, lines 28-29, and column 3, lines 1-3. *Provenzano* discloses mixing alumina powder with zirconia powder, and not “sintered secondary particles prepared from zirconia primary particles ... and alumina primary particles.” Accordingly, claim 1 is allowable over *Provenzano*. Claim 2 depends from claim 1, and is also allowable for at least the same reasons as claim 1.

The Office Action rejects claims 1-3 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,081,081 to Fothergill (*Fothergill*). Applicants respectfully traverse the rejection.

Amended claim 1 recites, “a zirconia-alumina nano-composite powder comprises sintered secondary particles prepared from zirconia primary particles ... and alumina primary particles.” *Fothergill* fails to teach or suggest at least this element of claim 1. In fact, *Fothergill* discloses “oxidizing a zirconium halide in the presence of an aluminium halide at a high temperature in the vapour phase.” *Fothergill*, column 2, lines 23-25. Similarly, *Fothergill* does not disclose “sintered secondary particles prepared from zirconia primary particles ... and alumina primary particles.” Accordingly, claim 1 is allowable over *Fothergill*. Claims 2-3 depend from claim 1, and are also allowable for at least the same reasons as claim 1. Applicants, therefore, respectfully request withdrawal of the rejection of claims 1-3.

The Office Action rejects claim 4 under 35 U.S.C. §103(a) as being obvious over *Fothergill*. Applicants respectfully traverse the rejection.

Claim 4 indirectly depends from claim 1, and incorporates all the elements of claim 1. As discussed, *Fothergill* fails to teach or suggest at least the above-recited element of claim 1, namely, “a zirconia-alumina nano-composite powder comprises sintered secondary particles prepared from zirconia primary particles ... and alumina primary particles.” Accordingly, claim 1 and its dependent claim 4 are allowable over *Fothergill*. Applicants, therefore, respectfully request withdrawal of the rejection of claim 4.

The application is in condition for allowance and early, favorable action is respectfully solicited. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the

filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

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Respectfully submitted,

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